

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS ✓
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/640,038	08/16/2000	Christoph Dorr	TRW(EHR)05042	3171

7590 12/19/2002

Tarolli Sundheim Covell Tummino & Szabo LLP
1111 Leader Building
Cleveland, OH 44114

EXAMINER

GARCIA, ERNESTO

ART UNIT PAPER NUMBER

3679

DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/640,038

Applicant(s)

DORR, CHRISTOPH

Examiner

Ernesto Garcia

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-28 is/are pending in the application.
- 4a) Of the above claim(s) 19-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-25 and 28 is/are rejected.
- 7) ☒ Claim(s) 26 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election of Figure 4 in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 19-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 4.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "5" has been used to designate both a housing cover with a trapezoidal curvature (Fig. 1), a cover without a trapezoidal curvature (Fig. 2), and a cover with a domed shape (Fig. 4); character 6 has been used to designate both a disk with a conical shape (Fig. 1) and a load transmission disk (Fig. 2); and character 17 has been used to designate both a circumferential cover in a closed bearing shell and a circumferential cover in a closed-upper bearing shell and an opened-upper bearing

Art Unit: 3679

shell. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to because Figure 4 does not show a reference depicting the portion of the bearing shell and the gap; and, regarding the arrangement of views in Figure 4, one view must not be placed upon another or within the outline of another. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "structure", "at least a portion of the bearing shell", "the structure interposed between the housing cover and the at least a portion", "the structure includes a spring element", "the lower shell being the portion", "the portion is wedged into the gap" are not provided in the specification.

The disclosure is objected to because of the following informalities: on page 4 in line 7, applicant has disclosed "[...]", which makes the sentence incomplete.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 17, 22-24 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Flumerfelt, 2,181,300 (see marked-up attachment).

Regarding claim 17, a ball-and-socket joint comprising a joint housing **10**, a ball head **25**, a bearing shell **22**, a housing cover **33**, and a structure **30**. The joint housing **10** has a first axial end **A2** and a second axial end **A3**. The ball head **25** has a ball stud **26** extending from the ball head **25**. The ball head **25** is received in the joint housing **10**. The ball stud **26** extends outward of the first axial end **A2**. A gap **A6** is formed between the ball head **25** and the joint housing **10** adjacent the ball stud **26** at the first axial end **A2**. The bearing shell **22** is received in the joint housing **10**. The structure **30** is interposed between the housing cover **33** and at least a portion **A10** of the bearing shell **22** and the structure **30** acts upon the portion **A10** of the bearing shell **22**.

The bearing shell **22** is for supporting the ball head **25**. The ball head **25** is for tilting relative to the joint housing **10**. The housing cover **33** is for closing the second axial end **A3** of the joint housing **10**. The structure **30** is for urging the portion **A10** toward the first axial end **A2** of the joint housing **10**, in response to wear of the portion **A10** of the bearing shell **22** and for wedging the portion of the bearing shell **22** into the gap **A6**.

Regarding claim 22, the bearing shell **22** includes a deformable area **A11**. Applicant is reminded that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Regarding claim 23, the bearing shell **22** comprises an upper shell **22** and a lower shell **23**.

Regarding claim 24, the structure **30** comprises a spring element arranged between the upper shell **22** and the lower shell **23**. The lower shell **23** is the portion **A10** of the bearing shell **22** and the lower shell **23** is wedged into the gap **A6**.

Regarding claim 28, the portion **A10** of the bearing shell **22** is cylinder-shaped. Applicant is reminded that the method of deforming the portion of the bearing shell by an inner wall of the joint housing when assembled into the joint housing is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given limited patentable weight. See MPEP ' 2113.

Claims 17, 18, 22 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Littman, 6,010,272 (see marked-up attachment).

Regarding claim 17, Littman discloses in Figure 4 a ball-and-socket joint comprising a joint housing **60b**, a ball head **110b**, a bearing shell **130b**, a housing cover **70b**, and a structure **150b**. The joint housing **60b** has a first axial end **A2** and a second axial end **A3**. The ball head **110b** has a ball stud **80b** extending from the ball head **110b**. The ball head **110b** is received in the joint housing **60b**. The ball stud **80b** extends outward of the first axial end **A2**. A gap **A6** is formed between the ball head

Art Unit: 3679

110b and the joint housing **60b** adjacent the ball stud **80b** at the first axial end **A2**. The bearing shell **130b** is received in the joint housing **60b**. The structure **150b** is interposed between the housing cover **70b** and at least a portion **A10** of the bearing shell **130b** and the structure **150b** acts upon the portion **A10** of the bearing shell **130b**.

The bearing shell **130b** is for supporting the ball head **110b**. The ball head **110b** is for tilting relative to the joint housing **60b**. The housing cover **70b** is for closing the second axial end **A3** of the joint housing **60b**. The structure **150b** is for urging the portion **A10** toward the first axial end **A2** of the joint housing **60b**, in response to wear of the portion **A10** of the bearing shell **130b** and for wedging the portion of the bearing shell **130b** into the gap **A6**.

Regarding claim 18, the structure **150b** advances the portion **A10** of the bearing shell **130b** toward the first axial end **A2** for wedging the portion **A10** of the bearing shell **130b** further into the gap **A6** as wear to the portion **A10** occurs.

Regarding claim 22, the bearing shell **130b** includes a deformable area **136b**. Applicant is reminded that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Art Unit: 3679

Regarding claim 28, the portion **A10** of the bearing shell **130b** is cylinder-shaped (see dashed lines). Applicant is reminded that the method of deforming the portion of the bearing shell by an inner wall of the joint housing when assembled into the joint housing is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given limited patentable weight. See MPEP ' 2113.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flumerfelt, 2,181,300, in view of Herbenar, 3,945,737.

Regarding claim 25, Flumerfelt, as discussed above, fails to disclose the spring element **30** is a wave-shaped spring washer. Herbenar discloses in Figure 7 a spring element **49** is a wave-shaped spring washer to provide a spring bias (col. 4, 58-63). Therefore, as taught by Herbenar, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the spring element being a wave-shaped spring washer to provide a spring bias.

Allowable Subject Matter

Claims 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claim 26, the prior art of record, Littman, Flumerfelt, and Andrew fail to disclose a ball-and-socket joint comprising an upper shell includes a collar wedged between a housing cover and a shoulder of a joint housing; and,
regarding claim 27, this claim depends from claim 26.

Response to Arguments

Applicant's arguments with respect to claims 17 and 18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

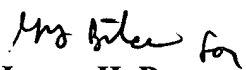
The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Andrew, 3,574,370, shows a similar ball-and-socket joint.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 703-308-8606. The examiner can normally be reached from 8:30-5:00.

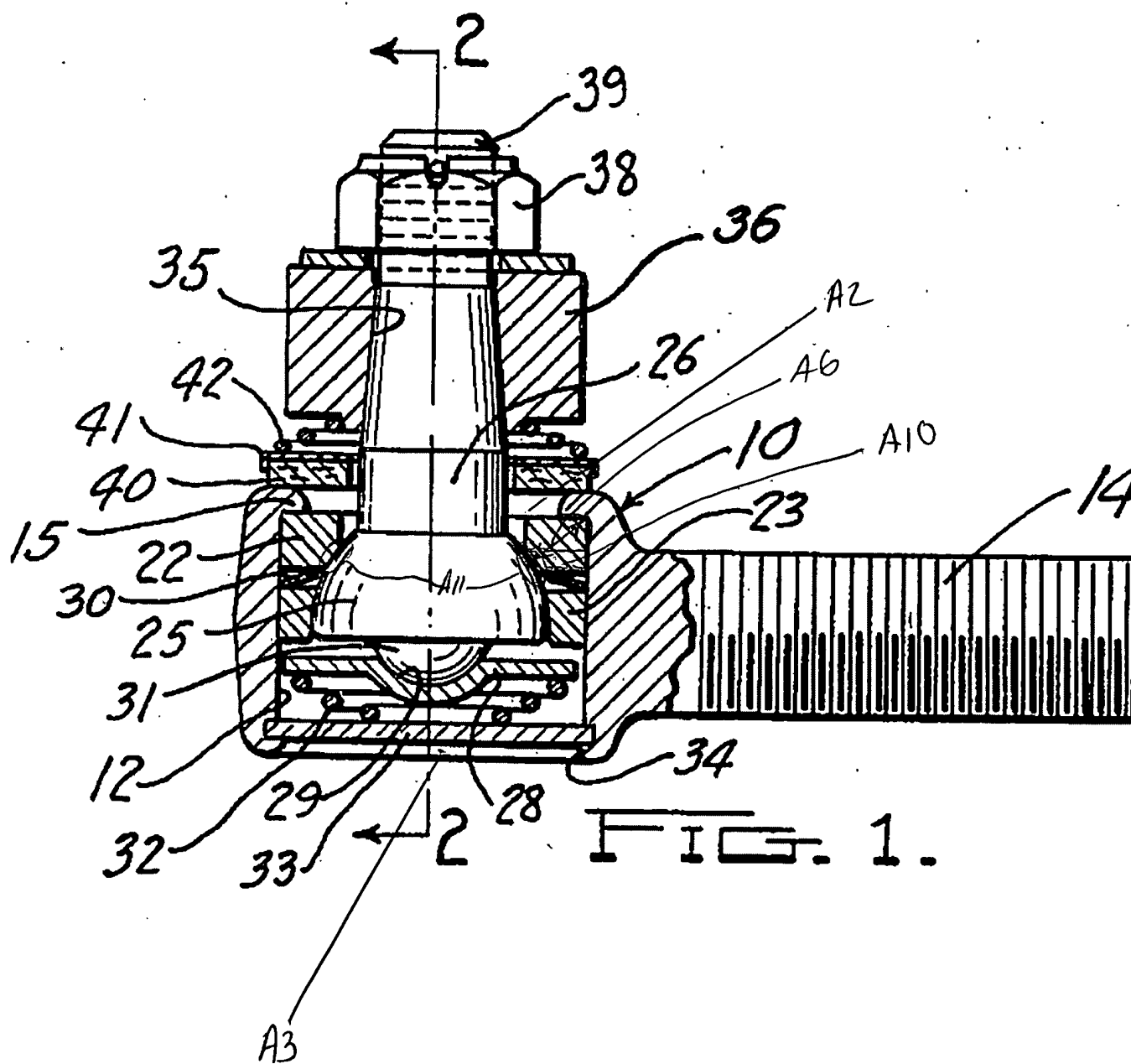
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703-308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.


Lynne H. Browne
Supervisory Patent Examiner
Technology Center 3600

E.G.

December 11, 2002

Attachments: one marked-up copy of Flumerfelt, 2,181,300; and,
one marked-up copy of Littman, 6,010,272.



6,010,272

